

Riverside East SEZ Draft Management Questions, Management Goals, and Monitoring Objectives

The draft management questions, management goals, and monitoring objectives in the table below represent the foundation of the Riverside East SEZ monitoring and adaptive management strategy.

Management questions are the “why monitor” step in the AIM strategy. They represent questions about potential impacts that we want to answer. The specific questions below are meant to help answer overarching questions such as: Have project-specific environmental reviews accurately anticipated impact levels? Are multiple projects leading to unanticipated cumulative impacts? What observed impacts are related to solar development relative to natural or other anthropogenic factors?

Management goals are the BLM’s desired outcomes for particular resources. These are partially driven by legally mandated requirements and the BLM’s resource and land conditions/health goals.

Monitoring objectives are the “what to monitor” step – what we plan to monitor to answer the management questions. Monitoring objectives should specify an indicator to be measured and the area to be monitored. Individual objectives may address multiple management questions.

The management questions, management goals, and monitoring objectives presented in the following table are not all-inclusive, but rather give stakeholders an introduction to the BLM’s approach for the Riverside East SEZ.

For this exercise, we are interested in 1) comments on, or additions to, the Management Questions, Management Goals, and Monitoring Objectives, and 2) how to prioritize these elements as part of a long-term monitoring effort.

Management Questions	Management Goals	Monitoring Objectives
Physical Environment		
<p>How much soil erosion is occurring onsite and offsite? (What is the zone of influence for erosion from the site?)</p> <p>Are ground disturbance and facilities altering natural patterns of water and wind erosion?</p> <p>Do solar facilities significantly alter surface water flow away from the site?</p> <p>Is erosion adversely affecting the archeological site integrity of cultural and fossil resources?</p> <p>Is wind driven surface soil erosion related to solar development affecting ecological and human health?</p>	<p>Conserve soil resources that support hydrologic and ecologic processes.</p> <p>Minimize impacts to desert pavement, dry lakes, biological soil crusts, sand dunes, and aeolian sand transport corridors.</p> <p>Minimize erosion on and offsite. Maintain offsite surface water flows</p> <p>Maintain integrity of archaeological and paleontological resources Minimize erosion to sacred areas and trails</p> <p>Control fugitive dust to minimize the increase in airborne particulates</p>	<p>Erosion rates within X mi of the SEZ are not increased by more than XX%.</p> <p>Basin-scale loss of desert pavement, biological soil crust, sand dune areas do not exceed XX% (or different percentages for each feature).</p> <p>Basin-scale average infiltration rates are not reduced by more than XX%.</p> <p>Runoff volumes from the SEZ do not increase more than XX% from pre-development runoff.</p> <p>Monitor the integrity of archeological sites</p> <p>Monitor off-site dust</p>
<p>Is/are the groundwater basin(s) in overdraft?</p> <p>Is solar related water withdrawal affecting ecological structure and function?</p>	<p>Maintain natural balance of the groundwater supply</p> <p>Maintain the hydrology of seeps and springs and groundwater dependent streams and dry lakes Maintain groundwater dependent animal and vegetation communities</p>	<p>Limit basin-scale groundwater withdrawals to a defined sustainable yield (xx acre feet per year)</p> <p>Groundwater surface elevations do not decrease by more than XX ft in monitoring wells on or near projects (can vary this by position in the basin as needed) Allow for at most a XX% loss in groundwater-dependent vegetation communities within a XX ft buffer of projects</p>

Management Questions	Management Goals	Monitoring Objectives
Ecological Resources		
<p>What is the status and trend of vegetation communities surrounding the SEZ?</p> <p>Are facility operations affecting vegetation communities?</p> <p>What is the habitat condition of special status species in and near the SEZ? Are they deteriorating relative to control sites?</p>	<p>Ensure facility operations do not promote the spread of invasive plant species</p> <p>Preserve vegetation communities and functions, particularly communities with rare species, high species richness, and critical habitats for wildlife.</p> <p>Maintain photosynthesis, productivity, nutrient cycling, energy flow, and other ecological processes</p> <p>Maintain riparian vegetation cover</p> <p>Recover desert tortoise populations according to Desert Tortoise Recovery Plan</p> <p>Close unused routes and minimize routes crossing desert tortoise habitat areas</p> <p>Ensure long term viability of big horn sheep populations and habitat</p> <p>Maintain suitable habitats and habitat connectivity</p> <p>Minimize solar-related mortalities</p>	<p>Detect changes of >X% in bare ground cover, >X% in total plant cover, and >X% of intercanopy gaps within a XX mi buffer of SEZ</p> <p>Detect changes >X% of high priority vegetation species composition within a XX mi buffer of the SEZ</p> <p>Detect increases or introductions of >X% in invasive species in and surrounding the SEZ relative to control site.</p> <p>Detect decreases in habitat connectivity that are more than X% at X scale</p> <p>Plant communities produce sufficient (need to define) plant litter</p> <p>Reductions in habitat quality and connectivity for special status species are not to exceed XX% within X mi of SEZ (Can make this objective specific to individual or groups of habitat characteristic variables)</p> <p>Maintain special status species population targets specified in land management plans</p> <p>Limit reductions in X species populations to less than XX% relative to control sites. (or maintain populations within historical ranges)</p>

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Human Elements		
Do site operations change existing site uses, user experiences, and cultural values (recreational, Native American concerns, transportation)?	<p>Minimize removal of artifacts, fossil resources, and minerals used for tools</p> <p>Maintain baseline recreational opportunities, uses, and quality of experiences</p> <p>Preserve visual resource inventory class to landscapes</p> <p>Manage adjacent lands to improve conservation and balance other uses</p> <p>Minimize acoustic and light impacts</p>	<p>Detect changes >X% of visitors at the LTVA and Joshua Tree NP</p> <p>Detect changes in the amount, location, type or recreations uses in the xx-mile buffer area (not defined) around the facility</p> <p>Detect number of authorized and unauthorized uses in Specially Designated Areas (SDAs), as well as disturbances and restoration.</p> <p>Monitoring increased traffic and access</p> <p>Detect changes in the visual character of the landscape</p> <p>Noise levels not to exceed XX dBA within a XX mi radius of project (compliance monitoring)</p> <p>Monitor increased glint/glare impacts for aviation</p>
Is solar development complying with federal requirements for environmental justice?	Ensure changes related to solar development to the local economy and environment do not disproportionately affect minority and low-income populations	Monitor changes in the human environment in relation to low-income and minority populations
What are unanticipated effects of solar developments on previously unidentified resources? (e.g., significant bird mortalities, valley fever infections)	Detect apparent signs of unanticipated effects and investigate them adequately to avoid and mitigate for previously unanticipated effects	Look for anomalies in natural resources and processes as part of adaptive management to control for management errors